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EXAMINER	
LAZORCIK, JASON L	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/813,107	PETERSON ET AL.	
	Examiner	Art Unit	
	JASON L. LAZORCIK	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 June 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *41-43,46-65,69-85,88-108,110,112-116,118-124 and 126-139* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *41-43,46-65,69-85,88-108,110,112-116,118-124 and 126-139* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/23/2010, 7/9/2010*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of the Claims

Applicants reply dated June 23, 2010 amends claim 41, 83, 121, cancels claims 44-45, 86-87, 125, and adds new claims 126-139.

Amendments to claims 41, 83, and 121 are supported by previously presented claims 44-45, 86-87, and 125.

In view of the instant reply, claims 1-40, 44-45, 66-68, 86-87, 109,111,117, and 125 stand as having been cancelled by Applicant and no claims stand as withdrawn from consideration. Therefore, claims 41-43, 46-65, 69-85, 88-108,110,112-116,118-124, and 126-139 are pending for prosecution on the merits.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 41-43, 52, 56-57,59-64,69-70,81-85,94-95, 99-100,102-107,110,112,114-116,118-124, and 126-139 are rejected under 35 U.S.C. 102(b) as being anticipated by Allen (US 5,474,095 as evidenced by Hampl et. al. (US 4,739,775).

Allen teaches a paper wrapper for a smoking article comprising annular bands of reduced permeability perpendicular to and spaced along the long axis of a circumscribed tobacco rod (see figure 4).

With respect to claim 41, Allen teaches a paper web having a permeability of greater than about 60 Coresta (col. 4, lines 5-7) and treated regions having a reduced porosity of up to about 10 CU (col. 4, lines 10-11) and space apart from each other at a distance from about 5 to about 40 mm (col. 4, lines 57-61) or "at a distance of from about 10mm to about 30mm" as claimed

As noted in prior Official Communications, it is the Examiner's understanding that both the Coresta (CU) and BMI or "Burn mode index" represent alternate but effectively equivalent measures of porosity and in the instant case specifically describe the porosity of the treated region or bands. To this end, although Allen discloses a Coresta value for the bands which reads upon the claimed range, the reference fails to disclose the treated band porosity as measured by the BMI value.

The patent to Hampl et. al. (US 4,739,775) provides insight into the BMI value and its relation to the CU. The Hampl reference relates the methods of acquiring a BMI value in addition to presenting an exemplary comparison between the Coresta value of a wrapper (30 CU) and its equivalent porosity as measured by BMI (14 cm-1) (see Table 1). By the Hampl reference, it is the Examiner's understanding that the CU and BMI are related by an approximate 2:1 ratio (e.g. 30 CU:14 BMI). Therefore absent

compelling evidence to the contrary, Allen is understood to teach a treated band presenting a BMI value of approximately 5 cm^{-1} or less (e.g. half the CU value of up to about 10CU)

Regarding claim 42, see Allen figure 4, element (11)

Regarding Claim 43, see Allen col. 4, lines 36-37.

Regarding Claim 44, 45, see Allen col. 4, lines 57-61

Regarding Claim 52, see Allen claim 22

Regarding Claims 56 and 57, see Allen col. 8, line43-col. 9, line26.

Regarding claim 59, see Allen col. 3, lines38-41

Regarding claims 60-62, , see Allen col. 5, lines 3-15

Regarding claims 63-64, see Allen Example 2

Regarding Claim 69, see Allen col. 4, lines 10-11

Regarding Claim 70 see above discussion on claim 41, 43, and Allen col.3, lines 38-42 and 59-63.

Regarding Claims 81 and 82, see Allen col. 4, lines 10-11

Regarding Claim 83, see Allen figure 4 and discussion of claim 41 above

Regarding claim 84, see Allen Figure 4.

Regarding Claim 85, see Allen col. 4, lines 57-61

Regarding Claim 94, see Allen col. 8, line43-col. 9, line 26 and Allen claim 22

Regarding Claim 95, see Allen col. 4, lines 10-11

Regarding Claims 99-100, see Allen col. 8, line43-col. 9, line26

Regarding claim 102 , see Allen col. 3, lines38-41

Regarding claims 103-105, see Allen col. 5, lines 3-15

Regarding claim 106-107, see Allen Example 2

Regarding claim 110, see Allen col.3, lines 59-63

Regarding claim 112, see Allen col. 4, lines 10-11

Regarding claim 114, see Allen figure 4

Regarding claim 115, see Allen col. 3, lines 59-63

Regarding claim 116, see Allen figure 4

Regarding claim 118, see Allen Figure 4

Regarding Claim 119, see Allen col. 3, lines 59-63

Regarding claim 120, see Allen Figure 4

Regarding claim 121, see discussion of claims 41 and 44

Regarding claim 122, see Allen figure 4 and Allen col. 6, lines 59-63

Regarding claim 123, see Allen Figure 4

Regarding Claim 124, see Allen col. 4, lines 57-61

Regarding Claim 125, see Allen col. 4, lines 57-61

Regarding Claim 126, see discussion of claims 41, 70, and col. 8, lines 43-46 wherein Allen discloses that the base may comprise flax fibers (e.g. cellulosic fibers) and calcium carbonate (e.g. a filler) in an amount of approximately 30% or "between about 10% to about 40% by weight".

Regarding claim 127, see Allen claim 22

Regarding claims 128-130, see Allen col. 5, lines 3-15

Regarding claim 131, see Allen figure 4, element (11) and Allen col. 4, lines 36-37.

Regarding claim 132, see Allen figure 4 and the discussion of claim 126 above.

Regarding claim 133, see the discussion of claim 41, 70, and 126 above

Regarding claim 134, see Allen claim 22

Regarding claims 135-137, see Allen col. 5, lines 3-15

Regarding claim 138, see Allen figure 4, element (11) and Allen col. 4, lines 36-37.

Regarding claim 139, see Allen figure 4 and the discussion of claim 133 above.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 41-43, 46-65, 69-85, 88-108,110,112-116,118-124, and 126-139 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson (US 5,878,753) in view of Hampl (US 4,739,755) and Hampl (US 6,298,860 B1) and in further view of Allen (US 5,474,095)

With respect to independent **claims 41, 70, 83, 113, and 121**, Peterson teaches a paper wrapper for a cigarette and the cigarette comprising said wrapper and tobacco column as depicted in the instant reference Figures 1 and 2. Figure 2 teaches cigarette paper web presenting a plurality of "discrete circumferential bands" **[Claims 42, 84,122]** coated with a film forming composition wherein consecutive bands are spaced apart by untreated regions of paper web. The reference clearly teaches that the treated regions have "a preferred permeability less than 6 ml/min.cm^2 (Coresta), and generally within a range of 2-6 ml/min/cm^2." (Column 5, lines 57-62) **[Claim 95]**

It is the Examiner's understanding that both the Coresta (CU) and BMI or "Burn mode index" represent alternate but effectively equivalent measures of porosity and in the instant case specifically describe the porosity of the treated region or bands. To this end, although Peterson discloses a Coresta value for the bands which reads upon the claimed range, the reference fails to disclose the treated band porosity as measured by the BMI value.

The patent to Hampl et. al. (US 4,739,775) provides insight into the BMI value and its relation to the CU. The Hampl reference relates the methods of acquiring a BMI

value in addition to presenting an exemplary comparison between the Coresta value of a wrapper (30 CU) and its equivalent porosity as measured by BMI (14 cm-1) (see Table 1). By the Hampl reference, it is the Examiner's understanding that the CU and BMI are related by an approximate 2:1 ratio (e.g. 30 CU:14 BMI). Therefore absent compelling evidence to the contrary, Peterson is understood to teach a treated band presenting a BMI value of approximately 3 cm^{-1} or less (e.g. half the CU value of less than 6 CU) [**Claim 69, 81, 82, 112**].

Band Width and Band Spacing are Result Effective Variables Subject to Optimization

With respect the particular details of band width and spacing as required by **Claims 70 and 113**, the Peterson reference teaches that "Applicants have determined that, for the cigarettes tested, a minimum band width of 4mm is desired" (Column 6, Lines 3-4) [**claim 43, 85,124**] and that "In the cigarettes tested, applicants have found that a band spacing of between 5 and 10mm is appropriate" (Column 6, Lines 18-19) [**Claim 44, 45, 86, 87,125**].

Peterson further sets forth both band spacing and band width as clear result effective variables subject to empirical optimization. Specifically, Peterson teaches that the "width and spacing of bands are dependent on a number of variables, such as the initial permeability of wrapper 14, density of tobacco column 12, etc". The reference continues by teaching that the bands preferably have a width sufficient to limit the oxygen provided to the burning coal. The reference further asserts that the band spacing should not be so large as to promote burning trough the bands, but not so small

as to self-extinguish the cigarette in a free-burn state. Therefore, the band width and band spacing are held as result effective variables of the paper wrapper which one of ordinary skill in the art would be able to optimize through routine experimentation.

Number of Circumferential Bands is an Obvious Parameter in View of the Band Width, Band Spacing, and the Ordinary Level of Skill in the Art

With respect to Applicant's newly submitted **Claims 114, 116, 118, 120, and 123,** Peterson places neither explicit nor implicit limitations upon the number of bands applied to the paper wrapper, however the reference is silent regarding the particular limitation wherein the wrapper includes "up to three circumferential bands".

In view of the above discussion regarding the result effective nature of band width and spacing, said limitation is not deemed to patentably distinguish the claimed invention over that disclosed in the Peterson reference when viewed in light of the ordinary level of skill in the art at the time of the invention. Specifically, one of ordinary skill in the art at the time of the invention would view the total number of circumferential bands as a dependent variable based at least in part upon the desired length of the tobacco rod in addition to the above noted optimized width and spacing of said bands. It follows, that Applicants claimed paper wrapper comprising "up to three circumferential bands" would reasonably have been derived through no more than routine experimentation over the prior art disclosure.

Peterson Cigarette is Construed to Pass the claimed "Cigarette Extinction Test"

Applicant's amended **claims 115, and 119** incorporate the limitation wherein the treated areas reduce the ignition proclivity of a smoking article "such that the smoking article self-extinguishes when lit and placed on filter paper".

With respect to the named test, Applicant is respectfully directed to Peterson (column 10, Lines 40-57) which states in pertinent part that the treated region (38) of the cigarette has a width "which is great enough to cause the cigarette to self-extinguish if it is dropped or otherwise left on a flammable substrate" (col. 10, lines 40-43). Again in view of the cited passage and absent compelling evidence to the contrary, the Peterson cigarette is construed self-extinguish if left on a flammable substrate and therefore construed to pass the claimed "Cigarette Extinction Test".

The instant reference further discloses that "Applicants have found that a non-aqueous solution of a solvent soluble cellulosic polymer with a particulate inorganic non-reactive filler suspended in solution works particularly well" (Column 6, Lines 25-28) [**Claim 52, 57, 58, 63, 64, 73, 94, 100, 101, 106, and 107**]. The reference continues by teaching that particularly well-suited fillers include titanium oxide or a "metal oxide" [**Claim 65, 72, 74, 108**] (Column 7, Line 5) and that ethyl cellulose acts as a preferred binder for the filler particles (Column 6, Lines 54-56) [**Claim 75**]. While the above coating composition sets forth a preferred embodiment, Peterson teaches that aqueous solutions [**Claim 56, 99**] which a variety of common film forming components include alginate, polyvinyl alcohol [**Claim 48, Claim 50, 90, 92**]. Although not expressly

disclosed in the instant reference, one of ordinary skill in the art would recognize both polyvinyl acetate and starch as potential substitutes for the film forming component in the film forming composition [**Claim 49, claim 51, 71, 91, 93**].

In discussing the mode of depositing the bands, Peterson discloses that the bands are deposited using a commercial gravure press in a 3 pass process [Claim **46, 47, 79, 80, 88, 89**]. Said deposition produces a "ramp pattern" increasing gradually from 0% to 100% over the three printing passes Column 11, Lines 26-57). The disclosed process is understood to vary the amount of film forming composition applied to the paper web by at least 1% between at least two of the layers [**Claim 53, 54, 96, 97**].

Now, Peterson fails to explicitly teach the application of an alkali metal citrate to the paper web to act as a "burn control additive", however such an addition would have been readily obvious to one of ordinary skill in the art at the time of the invention. Again looking to the analogous teachings of Hampl (US 4,739,775), it is disclosed that "While the base cigarette paper may be conventional, it may contain small amounts of an ash conditioner, such as potassium citrate. However the amount of the ash conditioner must be below the level which causes the wrappers to support combustion of a cigarette in spite of the bands. (Column 4, Lines 52-58). It would have therefore been obvious to one of ordinary skill in the art at the time of the invention to modify the Peterson invention to include a burn control additive such as an alkali citrate [**Claims 60, 61, 62,**

103, 104, 105]. This would have been an obvious modification to one of ordinary skill seeking to promote ash formation in a cigarette article.

Additionally, while Peterson teaches the use of a particular commercially available brand of paper (e.g. Kimberly-Clark Corporation KC Grade 603 paper) with a porosity of approximately 35 CU, the reference fails to explicitly teach the use of a paper web having a permeability of greater than about 60 CU as required by independent Claims 41, 70, 83, and 113. That said, Peterson does teach that "Wrapper (14) may include any manner of commercially available cigarette wrapper,...It should be understood that any other manner of paper web may be used in this regard."(Column 5, Lines 23-27).

Hampl (US 6,298,860 B1) teaches the use of a paper for constructing smoking articles having a basis weight from 18 gsm to 60 gsm [**Claims 59, 102**] and also having "a permeability of from about 5 Coresta units to about 80 Coresta units" (Column 2, Lines 46-51). Since the use of a cigarette paper having a porosity of about 80 Coresta units is known in the art of cigarette manufacturing and Peterson teaches that any manner of commercially available cigarette paper can be used in the disclosed invention, the use of a paper having a permeability of "greater than about 60 Coresta" or "greater than about 80 Coresta units" would have been obvious modification to the Peterson process at the time of the invention [**Claims 55, 76, 77, 78, 98**].

(I) Wrapper properties and dimensions not explicitly disclosed by Peterson are rendered obvious in view of the newly discovered reference to ***Allen (US 5,474,095)***

As noted in the grounds of rejection under 35 USC §102(b) above, the reference to Allen et. al. teaches a very closely related manufacture for a self-extinguishing cigarette wrapper and cigarette. Said wrapper comprises a plurality of annular bands of reduced permeability aligned along the long axis of the tobacco rod in a substantially identical manner to the Peterson wrapper. With respect to the materials and physical dimensions of the wrapper components, Allen teaches

1) a base paper having a permeability of at least about 60 Coresta (col. 4, lines 5-7),

2) reduced permeability bands having a width of greater than about 4mm (col.4, lines 36-37),

3) reduced permeability band spacing at a distance of from about 10mm to about 30mm (col. 4, lines 57-60),

4) reduced permeability regions having a permeability of less than about 25 Coresta Units and preferably in the range of up to 10CU (col. 4, lines 10-12),

5) up to three bands of reduced permeability (figure 4),

6) a paper basis weight in the range of from about 18gsm to about 60gsm (col. 3, lines 38-42),

7) application of an alkali metal citrate salt burn additive to the base paper (col.5, lines 2-15), and

8) use of an inorganic particulate filler and cellulose derivative as for formation of the reduced permeability regions (Example 1-3)

(Please note: other wrapper properties not explicitly treated in the instant grounds of rejection are either made explicit in the rejection of claims under 35 U.S.C. §102(b) above and/or are deemed self-evident on a plain reading of the instant reference)

In view of the Allen reference, one of ordinary skill in the art at the time of the invention would have found it obvious to try the above noted materials and physical dimensions for the reduced ignition proclivity wrapper as disclosed in the Peterson reference. That is, said materials and wrapper dimensions have been successfully employed to the manufacture of reduced ignition proclivity cigarettes in the Allen reference. It follows that application of the same or similar materials and dimensions in the Peterson disclosed wrapper would constitute no more than an obvious extension over the collective prior art with a reasonable expectation of for the successful manufacture of a reduced ingnition proclivity cigarette.]

Response to Arguments

Applicant's arguments filed June 23, 2010 have been fully considered but they are not persuasive.

Argument #1)

Applicant asserts that the recited claims require the presence of "treated discrete areas" which comprise "a film-forming composition". Applicant alleges that the Allen reference does not disclose creating treated discrete areas that comprise a film-forming composition.

In supporting this position, Applicant acknowledges that Allen teaches creating regions of increased thickness and/or density by depositing upon the base paper in discrete regions a second quantity of filler and/or pulp materials. Applicant however asserts that such a deposition does not comprise "a film forming composition"

In response, Applicant is respectfully advised that it is not evident to the Examiner precisely why the prior art discrete regions would not be construed to read upon the claimed film forming composition. That is, by Applicants own admission, the prior art applies a second quantity of material to form discrete regions characterized by thin layers of increased thickness and/or density. Such a deposition process would reasonably be construed to deposit a "film" in a discrete region upon the base paper and as such the material deposited would be properly construed as a "film forming composition".

In view of the foregoing, it is the Examiners assessment that Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Argument #2)

Applicant's arguments concerning the Declaration of Dr. Peterson have been fully considered and addressed on pages 15-18 in the prior Official Action dated December 23, 2009. The Official position stands as previously presented.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON L. LAZORCIK whose telephone number is (571)272-2217. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason L Lazorcik/
Primary Examiner, Art Unit 1791